

## **Remarks**

### **1. Introduction**

Claims 15-25 are pending. Claims 15, 17, and 21 are independent claims.

### **2. Rejections based on 35 U.S.C. §103(a)**

Claims 15-25 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,086,457 (Perlov et al.) in view of U.S. Patent 6,413,154 (Togawa et al.). The Office Action stated that the Perlov reference discloses a first CMP polisher 50a, a second CMP polisher 50b, and a plurality of slurry suppliers 5236a-c. The Office Action further stated that the Perlov reference fails to teach which slurry suppliers supply oxidizer-free medium and which slurry suppliers supply oxidizing medium. In addition, the Office action stated that the Togawa reference teaches a stock solution which may include an acidic, alkaline, or neutral solution. The Office Action concluded that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Perlov apparatus with the teaching of employing different stock solutions with oxidizing liquid or oxidizer-free liquid as taught by Togawa.

Applicants respectfully disagree that the cited references render the claims obvious. One aspect of the present invention relates to the sequence of delivering an oxidizer-free medium prior to an oxidizing medium to a wafer. Independent claims 15, 17, and 21 each recite limitations directed to this sequence. For example, claim 15 recites “a delivery system adapted for delivering said oxidizer-free medium to a wafer in said polishing station prior to delivering said oxidizing medium to said wafer in said polishing station”. Claim 17 recites “wherein said delivery system is adapted to deliver said oxidizer-free medium to said first polishing station in order to polish said wafer”, “wherein said transfer mechanism is adapted to move said wafer to said second polishing station”, and “wherein said delivery system is adapted to deliver said oxidizing medium to said second station in order to polish said wafer.” And, claim 21 recites “said delivery system and said transfer mechanism act cooperatively to supply oxidizer-free medium onto a specific wafer surface prior to supplying oxidizing medium onto said specific wafer surface.”

None of the references cited, alone or in combination, teach the above-referenced limitations. The Perlov reference teaches CMP polishers and a plurality of slurry suppliers. As

noted by the Examiner, the Perlov reference fails to teach or even suggest which slurry suppliers supply oxidizing-free medium and which slurry suppliers supply oxidizing medium. Moreover, the Perlov reference fails to teach any sequence whatsoever for supplying oxidizing-free or oxidizing mediums.

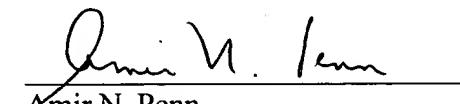
The Togawa reference teaches a polishing apparatus which supplies polishing stock solution to a wafer. The Togawa reference teaches a single stock solution tank 62 for storing the stock solution and teaches a dilution liquid tank 64 for storing a liquid to dilute the stock solution to a specific concentration. As noted by the Office Action, the Togawa reference teaches that the stock solution in the single stock solution tank 62 may include an acidic, alkaline or neutral solution containing abrasive particles such as silica-gel, depending on the nature of the workpiece, and dilution liquid is normally deionized water containing no harmful impurities. See Col. 3, line 66 – col. 4, line 3.

While the Togawa generally teaches that the stock solution may be acidic, alkaline or neutral, the Togawa reference fails to teach or even suggest that an acidic and an alkaline solution may be supplied to a single wafer. Rather, the Togawa reference teaches a single stock solution tank 62 which may be supplied with “an acidic, alkaline **or** neutral solution”. Col. 3, line 67 (emphasis added). Moreover, the Togawa reference is completely silent as to the sequence of supplying slurries to a wafer. In particular, the Togawa reference fails to provide any teaching or even suggestion of supplying an oxidizer-free medium to the wafer prior to supplying an oxidizing medium to the wafer as claimed in independent claims 15, 17, and 21. Thus, applicants believe that the independent claims in the present application, and the claims which depend thereon, are patentably distinct over the cited references.

**3. Conclusion**

Applicants respectfully submit pending claims 15-25 are allowable in their present form, and hereby request allowance of claims 15-25. If any questions arise or issues remain, the Examiner is invited to contact the undersigned at the number listed below in order to expedite disposition of this application.

Respectfully submitted,

  
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